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I. THEORETICAL PROBLEMS OF PSYCHOLOGY IN THE REALIZATION OF CLASS STRUGGLE

No. 2, July, 1959 Unsigned Article
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The Shansi Branch of the Chinese Psychological Society invited the psychologists, and philosophical and psychological workers in the Shansi area to meet at the Sian Teachers College, at which three discussion meetings were held during the last ten days of April. In discussing the problems of the class nature of psychological activities, there were controversies over the different opinions concerning the problem of whether there is any class character in the "behavior patterns" which are formed in the realization of class struggle.

A section of the comrades maintained that there is class character in the behavior pattern which is formed in the realization of class struggle. The reasons are mainly as follows:-

(1) The innate functions of the brain, as expounded by Pavlov, are the basic rhythms (excitement, repression --) of the higher nervous activities, and are independent of racial or of class differences. Therefore, these functions definitely lack class character.

(2) Behavior patterns are acquired after birth. Pavlov calls the mechanisms which are inborn, or anatomical mechanisms, and the behavior mechanisms acquired after birth the physiological mechanisms or functions. Therefore, the different practices of human beings become different behavior patterns. The character of a behavior pattern is determined by the nature of practice. The behavior pattern which is formed in social practice is of the character of society. A given behavior pattern which is formed in the realization of class struggle is of the class character.

(3) Consciousness is not produced from nothingness. Its birth cannot be separated from the brain. If it is held that practice does not determine the physiological activity of the brain, then how can the brain produce the consciousness reflecting the practice? If it is held that practice only determines consciousness, but not behavior patterns, and that a behavior pattern also does not reflect existence, this in reality denies that "the mind is the product of the brain"—the basic prinicple of the reflection of dialectic materialism.

The relation of practice to nervous activity and the mind should be: practice (existence) determines nervous activity (behavior pattern), and nervous activity produces psychic consciousness which reflects practice (existence).

Those who cherish the opposite view maintained that whatever behavior pattern it may be, there is no class character. The reasons are mainly as follows:-

(1) There is no class character in the nervous mechanism and nervous process. A behavior pattern is a series of conditioned

reflexes. A previous behavior results in a responsive stimulus, and this is a physiological phenomenon; in saying that it has class character is like saying that physiological matter also has class character. Then physiology has become the science of the class as well.

(2) Though a behavior pattern is determined by external stimulus, and is formed after birth, it can become a different behavior pattern as a result of man's different class practices. However, this is different from saying that it by itself has the character of the class. There is class character in human thought. But it is not to be understood that there is also class character in speech itself as a vehicle of thought and in the movement of the mouth in speaking. The class character of man's psychic consciousness is determined by the class society of the objective world. And the type of activity, which is only the material process of the brain as provoked by an external stimulus, is the function of the brain.

(3) Psychology is nothing but the revelation of the meaning and function of a stimulant. Physiology and psychology may be said to be with one accord, but cannot be made to be synonymous; they are esentially two different things. If to say that there is class character in psychology, which is to be regarded as maintaining that there is also class character in the behavior pattern producing class consciousness, it is in essence a mistaken statement confusing matter with the subsidiary character of the matter. Besides the two opposite views mentioned above, there is the third view which maintains that a behavior pattern may be regarded as having class character. But it should be regarded as such only on the presupposition that the conditional reflex is a physiological as well as a psychological phenomenon. When one says that the behavior pattern is the form and relation of the higher nervous activity, there is no class character from this standpoint. Its class character only manifests in the psychic aspect, and this class character is in essence the reflection of external class relation and class interest.

II. HOW PSYCHOLOGY CAN BE OF SERVICE TO SOCIALIST CONSTRUCTION

No. 3, August, 1959,
Pages 142-145.

Chen Ta-jou

Providing the Philosophy of Dialectic Materialism with Scientific Theorem.

Psychology is the science which studies the origin, growth, development of consciousness and the rules of reflective processes of man towards objective reality. Psychology is not the only science which studies consciousness and reflective processes; the philosophy of dialectic materialism also studies these problems. Psychology has to use it as a guidance. However, psychology has its own research objects and research methods, which are different from the philosophy of dialectic materialism. For instance, the study of social consciousness and its general reflective rules belongs to the area of research of historic materialism and other related sciences, and is not the task of psychological research; the method of investigation and statistics, as used by social sciences, are not the important methods of psychology.

Psychological research studies the consciousness and reflective processes of man who is representative of society's concrete existence. First of all, it is the study of psychological activity——including man's sensation, perception, language, thought, attention, memory, feeling, will and individuality, etc. From the point of view of the Marxian psychology, all psychological phenomena are the functions of the brain, the reflections of objective reality. Psychological workers apply scientific methods, to study these psychological phenomena from all angles. From the aspects of zoological evolution (from the lower to the higher animals) and the growth of the human individual body (from infancy to adulthood), they trace the origin, growth and development of consciousness; and from the various aspects of man's social realization, they trace how objective matter gives rise to the reflective activity of man's brain and produces subjective consciousness. At the same time, these psychological workers also use new theories and techniques of the natural sciences to investigate directly into the material proper of psychological activity——the law of nervous activity, so as to explain the physiological mechanism of psychological activity. From all angles, psychology engages in studying and investigating, and its general direction is to expose the ultimate "secret" of the activity of man's consciousness.

The activity of consciousness, or man's psychological phenomena is man's extremely complicated spiritual phenomena. The problem of the relation of the character of spiritual phenomena to material phenomena is the basic problem and the controversial point of the long-term struggle and divergence between materialism

and spiritualism in philosophy. Such struggle and divergence likewise penetrate into the scope of psychology. Spiritualistic psychology regards "the mind" as the "soul", which is in existence prior to matter or is transcendental beyond matter. It utilizes the highly complicated nature of psychological phenomena to make psychology the fortified base for the propagation of mysticism and superstition. Materialistic psychology is just the opposite. It regards the "mind" as subsidiary to matter, "a product of the higher order of matter which is organized by special means". (Lenin). It uses scientific methods to reveal the "secret" of psychological phenomena, to explain the real character of various forms of such phenomena, and to expound how man reflects the objective world through the activity of the brain. So it strikes a devastating blow to various forms and types of prejudice and superstition. And it goes one step forward to prove that "matter is of the first order, and consciousness, of the second order" and that "consciousness is the reflection of objective existence" as well as other theses of the Marxist philosophy. Therefore, Lenin regards psychology as one of the basic sciences, which forms the dialectic method and the theory of knowledge.

Solving the Practical Problems of Labour, Education, Medicine and the Like.

Psychology is not only full of important theoretical significance and purpose for the resourceful Marxist philosophy, but is also full of practical significance and purpose for the work of socialistic reconstruction. Since the Great Leap Forward, actual practice has incessantly given rise to many psychological problems, and has demanded psychological workers to solve them. With regard to some aspects of the problems, these psychological workers have already started their research, and have already obtained some preliminary result, with a certain effect on motivating practice.

In labour production, the increase of the rate of labour output is an important task, which our country's socialistic productive reconstruction demands that it be pushed in conjunction with the application of psychology. The psychological workers have assisted various industrial departments in conducting training classes on the rationalization of work, and have also helped factories start job study programs in the punching and compression machine shops. Through the process of a series of complicated psychological activities in labouring work, they have studied the problems of how to develop the workers' sensation and perception so that they may follow the changes of the productive process, and react to these changes accurately. They applied the theory of work rationalization and the method of motion analysis in psychology and found ways to increase the rhythms of work. They also applied the principle of work rationalization to reduce extra movements. Thus they have aided the factories to improve the methods of working 20 kinds of punching and compression machines, and enabled the workers who had

always been regarded as "slow hands" to become "quick hands". This study has not only increased labour efficiency, but also reduced labour strain. Another important task in which psychology may be employed is to promote creation and invention. This is part of the technological reform movement of the masses, which is being initiated in our country. Psychological workers have recognized that the process of technological reform includes a series of very complicated thought activity, that the effect of thought activity depends on proper, objective conditions, and that the the process of thought activity also has its internal law. They took preliminary steps to analyze the experiences of creation and invention among the masses. They used the principle of associative thinking in psychology and the "proto-type" method of enlightenment to cooperate with the workers to put forward various "proto-type" (deaft diagrams, models, objects and the like articles capable of promoting invention) conductive to the enlightenment of the workers on creative thought activity. The result was the impressive advancement of the process of creation and invention. Having gone through the investigation in the law of creative thinking, the psychological workers have not only smashed the heresy of bourgeoisie psychology, which regards creation and invention as the products of accidental "inspiration" and "sudden comprehension" and the like, but have also been instrumental in promoting creation and invention, as well as in pushing the movement for technological reform.

Speeding up the training of skill workers is another important task, closely related to the work of psychology. For the sake of keeping step with the increased output of our country's steel, psychological workers have studied one of the important techniques in the work of steel refining, which has to do with the control of fire in the furnace. Workers attending to the furnace have to depend on minute changes in the flames as erupted from the furnace to judge the metallurgical condition of the furnace, and to depend on this for operation. This is a very difficult technique to master. The psychological workers made use of the experiences of veteran workers and the theory of steel refinery as regards converters as a basis to coordinate with the principle of visual psychology in order to discover the relation of chemical reaction and temperature in the furnace to the minute changes in color, brightness and shapes of the flames and sparks. Then they proceeded with the method of effective observation and judgment, and compiled the data thus derived for teaching purposes. Armed with such data, they helped the workers train their apprentices who were able to learn the techniques of visual judgment based on the characteristics of flames within only a short period (17 days) of time.

In addition, guaranteeing safety in production is also an important task related to psychology. For there is a close relationship between the occurrence of industrial accidents and man's attention, fatigue, errors in movement and the like. The psychological workers have assisted mining departments in making a preliminary analysis and study of the causes of accidents, and put forward

beneficial recommendations and measures of safety in production. In labour production, the role which psychology is capable of performing is a multiple one. So labour psychology shall become one of the important weapons for increasing the rate of labour output.

In clinical work, especially in the prevention and cure of mental illness, psychology may play an important role. Since the Great Leap Forward, clinical work has led to many new tasks incumbent on psychology. Psychological and medical workers do closely co-operate, and are at present making experiments and research for the speedy and composite treatment of neurathenia. Before the Great Leap Forward, neurathenia was always considered a kind of chronic illness which could hardly be cured in a short time. Hitherto hospitals have adopted purely medical and physical treatment, and the results have not been satisfactory. Then the psychological and medical workers co-operated, and in conjunction with the application of medical and physical treatment, psychological treatment has also been used, which is known as the composite treatment. They used the method of composite treatment in schools, factories, and the out-patient departments of hospitals. They experimented and conducted research, in which two hundred patients participated. The patients received excellent care within a four-week period of clinical treatment, under their original work and learning conditions. The symptoms of their illness changed for the better. Of the total number of patients under treatment thus treated, some 80-82% recovered or became hopeful cases. This was verified by follow-up visits. An absolute majority of those who had been cured by the composite treatment found the curative effect lasting. Simultaneously clinical experiments and the patients' reflections have proved that psychotherapy is an indispensable part of the method for the speedy and composite clinical treatment of neurathenia. The current clinical use of the method of psychotherapy by psychological workers is mainly that of reasoning under the conscious state. Its content includes: (1) the introduction of knowledge pertaining to neurathenia in order to relieve the patients of their anxiety over their illness, and to rouse and strengthen their confidence in the speedy clinical treatment; (2) giving concrete measures to the patients for overcoming the illness, and encouraging them to fight against the illness; (3) generalizing the concrete etiology of the illness of each individual patient, helping him to analyze and correct his false impressions of the disease-producing factors, and thereby building up in him the correct attitude toward treatment. From clinical experiments, it is conceivable that the roles of psychotherapy, medical therapy (the injection of novocaine, insulin, etc.), and physical therapy (the application of electric stimuli, sleep, acupuncture, etc.) are inter-related and mutually beneficial. Psychotherapy may have a great effect in the fields of breaking the vicious cycle of pathology, raising dermal activity, and treating pathological causes. For the sake of discovering the disease-producing mechanism of neurathenia, they have, in their clinical

work, co-cordinated the investigation and analysis of the etiology of diseases with the experiment and research in the patient's higher nervous activity and dermal motivity. The efficiency of psychotherapy in the treatment of neurathenia has met with high esteem in the medical circle. At present, not a few of the clinics have already adopted the method of psychotherapy in the treatment of neurathenia in an extensive way, and have already obtained comparatively highly curable results. It must be emphasized here that the function as performed by psychology in clinical work is not limited only to the application of psychotherapy to the treatment of certain psychopath. So far as the treatment of the diseases in general, psychology also has its important role. The physicians of various departments, in their clinical work, not only have to treat the problems of the patient's organism (body), but also to deal with problems of his thought individuality. In treating the sick, the physician always comes across the patient's "psychological role". His speech and attitude have a great effect on the patient with whom he comes into contact. A knowledge of psychology is of assistance to him to understand the patient's character, traits, and psychological attitudes, to diagnose illness, and to prescribe treatment, as well as to develop the greatest effects of medicine.

In educational practice, after the promulgation of the Party's educational objectives in 1957, the educational workers have raised many urgent problems in psychology pending solutions. Under the circumstances of the Great Leap Forward of our country's education in 1958, the work incumbent on psychology has been greatly multiplied. For instance, "the problem of age of grammar school children" is one of the important tasks. At present the psychological workers are just undertaking this area of study. They have co-operated with the educational workers to experiment with classes admitting six-year-old children. They have already started to study the 7-to 8-year-old children's comprehension of scientific knowledge, mainly the age discrepancy in the comprehension of the knowledge of language and mathematics. They attempt to make a comparison of the age characteristics as shown in the learning process of children of six and seven years of age in the areas of perception, attention, memory and power of reasoning and the like in order to provide psychological basis for dealing with the problem of school age. One of the important tasks of pedagogy is the elevation of the qualities and efficiency of teaching and learning. The psychological workers have assisted the teachers to study the pedagogical problems relating to the applied subjects of the four principles of elementary school arithmetic. They have attempted to break up the existing system of elementary school pedagogy. Basing on the characteristics of the children's thought activity, they have compiled and written their own teaching materials, and experimented on teaching the basic knowledge of algebra at the 5th year, elementary school, and on using algebra as a tool for solving the applied subjects of the four principles of arithmetic. The results of the experiment has proved that the achievement of learning among the students was

excellent, and they could be used to shorten the learing period. It is of significance to the improvement of teaching materials, methods, and the year-limit of learning the elementary school arithmetic. For the complete realization of the direction for "the coordination between education and labour production", some psychological workers are studying the psychological problems of the students' participation in the labour of production; some are just making research into the pedagogy of various subjects (especially physics, natural history and the like) to see how they could be coordinated with labour production. These are of assistance to increasing pedagogical results and to promoting the development of the student's intelligence. In contemporary education, one of the important tasks is the acceleration of the cultivation of the quality of the students' thoughts on communism. In collaboration with this task, some psychological workers have made a study of the effects of the students' participation in productive labour, and the school's experimentation on the system of collective boarding upon the formation of the collective spirit. From the activities of the social practice of human beings, they have studied and analyzed the factors for promoting the growth of the quality of the communist thought, have put forward the effective methods of training, and have made the schools to be more effective in training the students to become the labourers of culture, with socialistic understanding.

Strengthening Coordination with Reality, and Emphasis on Theoretical Research

In the establishment of socialism, the scope within which psychology can play its role is very extensive. As to the fields of work in labour, medicine and practice of pedagogy as indicated above, it is only a part of the tasks which practice has put forward to be incumbent on psychology, and of what has been carried out by the psychological workers, or what is just in the process of operation. In addition, psychology may likewise play its role in national defense, physical education, and arts. Since the Great Leap Forward, these areas of practical activities have continuously put forward the demand to, and the task incumbent upon the psychological workers. However, as far as the strength of the psychological workers of our country is concerned, many phases of the work are at present not carried out, or just being started. It can be affirmed that psychology has an important function to perform in motivating the realization of the various aspects of the establishment of socialism. However, it cannot be denied that psychology is still a comparatively weak discipline in our country. Therefore, whether in the area of theoretical research or in the field of solution of practical problems, it is still unable to bear the burden of the basic task as put forward by, nor to satisfy the demand, of the socialistic reconstruction. It is imperative to greatly raise its own level.

In order to solve the more important problems of reconstruction in production, psychology has to coordinate more with reality. Actual practice has brought forth many tasks incumbent on psychology, and it has greatly promoted the development of psychological research. In actual practice, the great multitude of the masses have created and accumulated many a precious experience in psychology. It is the responsibility of the psychological workers to generalize and elevate them in a much better way to guide practice, and simultaneously to enrich the content of psychology. On the other hand, at the time of strengthening the correlation with reality, one should pay more attention to the study of theoretical problems. As it is verified by the experience of psychology in its service to practice, the higher the elevation of theory, the better will be the capability of solving practical problems. Owing to the comparative weakness of the original foundation of psychology, the study of many a theoretical problem is still waiting for us to exert our gigantic efforts. We have to combine and coordinate with practice in order to strengthen research in this area. It should also be particularly mentioned that whether it is the study of the basic theory of psychology or coordination with reality to solve the problem of practice, it should pay full attention to the newest scientific techniques in psychology. Owing to the highly complicated nature of the psychological phenomena, one has to use a variety of types and kinds of method to study and research in order to be able to solve the problems in a better way. At present, there is the development of many a new technique and novel theory in the natural sciences. In fact, they have opened up not a few new roads of possibility for research in psychology. For instance, the application of the theory of communication, theory of control, radio technique, electronic computing technique and the like to develop the research relating to the electronic model of the brain is not only of great significance to the explanation of the material property of the psychological activity---the mechanism of the psychological activity of the brain, but also to the discovery of the psychological mechanism of the psychological activity of the brain. It also gives assistance to the projection of the sharpest scientific techniques (such as the highly complicated electronic computer and the like to be the substitute of certain organic functions of the brain).

In conclusion, the prospects of the future development of psychology, which has taken as its principal task, the research into the "secret" of the activity of human consciousness (the mind), is extra-ordinarily extensive. Its ability to contribute to the reconstruction of the socialistic production shall also be very great. The psychological workers should raise the theoretical level, and simultaneously continue to strengthen its coordination with the various aspects of the productive reconstruction, and listen to the call of practice. They should absorb abundant life force from practice, arm themselves with the newest techniques and

theories of science, raise the level of work, engage in self-forgetting labour in order to fulfil many important and glorious tasks incumbent on psychology brought about by productive reconstruction. Then it is able to make much more contribution to productive reconstruction, and through this kind of practice to promote the development of the science of psychology.

III. HOW TO DEVELOP MEDICAL PSYCHOLOGY IN CHINA

No. 3, August, 1959
Pages 146-149

Ting Tsan

"Correlation between theory and practice", and "scientific study is to serve socialist reconstruction" are the important guiding principles of our undertaking of scientific research. Especially under the encouragement of the Party's main line today, the people of our country have all redoubled their efforts and stirred up the high tides of production in the Great Leap Forward. In the areas of agricultural and industrial output, unprecedented miracles have occurred. Every one who is engaged in scientific research has to abandon the previous "academic" mode of work, which is divorced from practice and the masses, to endeavour to do his best to struggle for progress, and to contribute his share to the socialist re-construction of our Fatherland. Psychology as a branch of science, under the circumstances of the Great Leap Forward of our current socialist reconstruction, undoubtedly has to grasp the opportunity to serve our country's great socialist reconstruction as well as to produce results. By this alone could we be worthy of being the psychological workers in contemporary China; and by this alone, could we make psychology take root and sprout and thrive in the soil of our Fatherland.

Here we wish to talk about the problem of how medical psychology is to be of service to the clinical and health work of the people of our country.

Man is the most precious property of our socialistic society. Which of these enterprises — revolution for the overthrow of the reactionary regime, the reshaping of nature, and development of productivity, is not undertaken by the labouring people of our country under the Party's leadership? Under the circumstances of the Great Leap Forward of the current socialist reconstruction, there are many more other cases, which illustrate the great achievements of the industrious and courageous people of our country, and which are unprecedented in the past and in the present, at home or abroad! Therefore, the human factor is one of the decisive factors in our current situation of Great Leap Forward. We take the human factor seriously. Having mastered the objective laws, we have to give impetus to our subjective motivity so as to engage in all the great works which have never been achieved by our predecessors. Here we have to encounter an important problem — the problem of the people's health. How to guarantee that the people could have healthy physique to resist the attack of illness and to eliminate the distress of fatigue has become the very important task which medicine and its related sciences have to tackle. In this sense, medical psychology is to use the knowledge of the psychology of dialectic materialism to assist medicine in the prevention and care of illness, as well as in accomplishing the task of protecting the people's health.

The objective of medicine is man and his health. Man has his physical as well as social realities, and the relation between these two is dialectic unity. So man has not only the aspect of his physical activity. Suffice it to say that man's original nature lies in the aspect of psychic activity reflecting man's social reality. Talking about man's health, we cannot disregard the effects of human's psychic activity. However, medicine has a tradition that regards man as a biological organism, and neglects man's individuality. This is to say that it only conceives of man's physiological functions, but neglects man's psychic activity. This tradition encountered a change at the beginning of the present century. This change is due to the fact that in medical practice, whether in the diagnosis of the causes of illness, or in the cure and prevention of diseases, there is no way to get rid of the influence of man's psychic activity. This change finds expression in the medicine of the capitalist countries, especially in the emergence of the so-called "psycho-somatic medicine" in America. The proposition for "psycho-somatic medicine" shows that medicine can no longer neglect the effect of man's psychic activity on man's health. However from the standpoint of reality, the proposal for "psycho-somatic medicine" does not solve the problem of psychology in modern medicine. It is because "psycho-somatic medicine" is developed out of the dualism of philosophy. Their approach to the relation between physiological function and psychic activity is a direct inheritance of that of old spiritualism: as if the body is a kind of instrument for the manifestation of the "soul". Moreover, the theory of "psycho-somatic medicine" is also directly nourished by the Freudian theory of psycho-analysis. Thus it is covered with the more mysterious cloak of falsehood. For example, not a few American experts of "psycho-somatic medicine" maintain that human illness is only the symptomatic language of the physiological organs, and a person's vomit is the expression of a certain condition of a patient's indigestion. They refer all the psychic factors in all the diseases to what is known as "subconscious" in psycho-analysis. This so-called subconsciousness cannot be objectively verified. Though they have engaged in some work, and perhaps they have admitted to have found some psycho-somatic laws, after all they cannot stand the scientific tests. In reality it is still no aid to the solution of the problems of psychology as encountered in medicine. For instance, the American medical psycho-somatologists have come to this kind of conclusion: The obstacles to the functions of the visceral and circulatory systems are likely caused mainly by the supression of anger. The emotion of melancholy related to sex activity is likely to cause obstacles to the respiratory system. However, by further looking into their exposition of the so-called "theory", it is found that it is only the reciprocal commentaries on some technical forms of psycho-analysis, without allowing other people to use other scientific methods to make an objective examination of their technical forms

and theory. In this way, the emergence of the American "psycho-somatic medicine" has not given any aid to modern medicine, except this objective fact of explaining the need for the aid of psychology in modern medicine. This will only start with dualism and enter into the dead end of mysticism. Respecting the problems of psychology requiring urgent solution, they as usual are left in the stage of stagnation without any prospect. In fact, "psycho-somatic medicine" is incapable of solving any psychological problem in medicine. Here the crucial problem is that of comprehending the nature of man's psychic activity. Since there is philosophy, the problem of relation of the mind to the body has occupied an important place. For this is related to the basic problem of the relationship between existence and consciousness in philosophy. Since the problem of the effect of psychic activity on health is to be solved in medicine, then there is no escape from the philosophical conditioning of the various kinds of recognition of the relation between the body and the mind. Has modern medicine not been through a long period of endeavouring to use the pathology of the cells to explain man's sick constitutions? According to their view, the organs of human body and even the whole body is only the accumulation of cells, and to be ill is only due to the damage done to the cells by the disease-producing factors. Under such philosophical principles of mechanical materialism, it cannot see man's psychic activity, nor any psychological problem in medicine. For even psychology itself, under that principle, recognizes nothing psychological or conscious, (like what is held by behavioristic psychology), except the contraction of muscles and the secretions of the endocrine glands. Afterwards, medicine has in practice discovered the importance of psychology. Thus there emerged in the medical science of the capitalistic countries what was known as "psycho-somatic medicine". Just as mentioned above, the medical psycho-somatology is exactly conditioned by the recognition of the body-mind relationship of the dualistic philosophy, and is, therefore, unable to do anything for the problem of psychology in medicine.

From the aforesaid historical facts of the academic development of the theorem, if modern medicine is to make further progress, and to protect the people's health more effectively, it is impossible to avoid the psychic problems in medicine. In order to solve the psychic problems in medicine, we must first of all follow the guidance of the correct philosophical thought. This is also to say that first we must understand man's original character correctly and scientifically; we must correctly solve the so-called problem of "mind-body relationship" which has long been left over by history. By solving this problem alone could the road to medical psychology be established and developed. From this angle, the establishment or development of medical psychology is provided with the most superior conditions in our country today. For in philosophy the first scientific solution of the original character of psychic activity is the philosophy of Marxist-Leninism. The

philosophy of Marxist-Leninism regards mental object as the most complicated material product—the function of the human brain, and simultaneously the reflection of the objective existence. And Pavlov has exactly started from this correct philosophical principle to develop his theory of the conditioned reflex. This thought not only explains the material foundations of the growth and development of psychic activity—the laws of the activity of the human brain—but also points out the functions of the human brain—how psychic activity has in turn become the highest conditioner of the various organic functions of the human body. This is also to say that since the philosophy of Marxist-Leninism and the theory of Pavlov have correctly solved the problem of the psychic character, it too, has correctly solved the problem of the so-called "mind-body relationship" which has long been left over. After the liberation of our country, the philosophy of Marxist-Leninism has become the highest guiding principle of all sorts of work in our country. In response to the call of, and in relation to the Party, all scientific workers of our country have learned Marxist-Leninism, and are using the philosophical principle of dialectic materialism for the reconstruction of one's outlook in life and of one's own thought. The workers of medicine, physiology and psychology in our country have engaged in systematically learning the theory of Pavlov, and proceeded to do experimental and research work of a given qualitative level. There is another characteristic in the modern medicine of our country: the medical heritage of our Fatherland, under the call of the Party, has won unprecedented respect in the last few years. Some of the precious clinical theories and techniques have been extensively sorted out within the realm of the whole country. Their scientific values have been verified through clinical practices. Hidden in this medical inheritance of the Fatherland are many theories and methods of medical psychology which are worthy of our high esteem. All these theories have pointed out to us the correct directions and have provided the superior conditions for the establishment and development of medical psychology in our country. The problem for us as psychological workers is how to endeavour to contribute toward the protection of the people's health.

Since the Liberation, as a result of the great effort of the government to extend various clinical and health services, several kinds of important diseases which historically have sapped our people's health—such as small pox, syphilis, cholera, tuberculosis, hook worms and the like—have been eliminated or basically under control. However, mental illness still exists in a considerable number of the people in the cities and the villages. The mentally ill patients have not only lost their labour power, but also require state care, thereby adding to the burden of the state. Moreover, mental illness cases usually disturb other people's peaceful labour, and upset the social order. If we make an estimate of the loss, it must be very startling. This is one of the legacies left over to us by the long-term, cruel, reactionary regime. For example, quite a substantial number of mentally retarded patients

are due to the after-effects of various contagious diseases (such as meningitis, etc.) of the old society. Now our health departments have submitted plans for the prevention and cure of mental illness. In June 1958 the Ministry of Health, of the Central Government, summoned the first convention on the work for the prevention and cure of mental illness in the medical history of our country. The important result of the convention was the decision to cure all the mentally ill or to accommodate them with proper arrangements within a given period. It was also decided to expand the network of clinics for the mentally ill, and to adopt preventive measures to curb its spread. These measures are sure to result in the basical control of the spread of mental illness in the not distant future. The chief characteristics of psychopathy are the confusion of the functions of the brain with those of mental obstacles. The work for the prevention and cure of psychopathy would soon be launched extensively, and the responsibility would be urgently incumbent on the medical psychology in our country. For, from the analysis of pathology, the etiology of psychopathy is complex and multiple. Of course, the psychogenic factors are of importance in the development of psychopathy, and some even assume the chief importance. In addition to physical examination as a basis, the diagnosis of psychopathy has to infer from the result of psychometry in order to more accurately differentiate the kinds of psychosis and the degree of the development of the illness. At present, there is an extra-ordinarily urgent need for the techniques of psychometry in psychopathology in our country. For instance, the degree of the growth or retrogression of intelligence, the condition of mental blocks, the contents of illusion and fantasies, and so forth urgently need psychopathic diagnosis. Without the application of the knowledge of psychology of dialectic materialism, a set of scientific techniques of diagnosis can hardly be set up. Psychotherapy occupies a far more important place in the treatment of psychopathy. We not only want to establish a theoretical and technological system of collective as well as individual treatments, but also seek to formulate the fundamental principles of psychotherapy, allowing the medical and nursing personnel of psychopathology to more thoroughly understand the medical, physical, work, recreational, and other clinical treatment of psychopathy in order to hasten the recovery of psychopathic patients. Concerning the prevention of psychopathy, this is a more extensive field of work of medical psychology. How to impart to the people the knowledge of the laws of the normal development of individuality, and the effects of the disease-producing factors on the development of individuality, in order to safe-guard mental health and to prevent mental illness, is an important task of our country's medical psychology at the present time. In Nanking and Shanghai, the work for the prevention and cure of psychopathy has already been launched, and in Peking the first East City Area Psychopathic Clinic has already been formally set up. They all require the coordination of the various aspects of medical psychology with the

current, extensive launching of the work for the prevention and cure of psychopathy in the whole country. And this is one of our important missions today. This is a new piece of work, and we are required to set up this new work from the beginning according to the existing conditions of our country. However, this is the work which has to be launched at once. In the city of Peking alone, this kind of mental clinic has already been established in 13 strategic areas. And this kind of clinic will be set up gradually in various other parts of the country. Medical psychology is to be included in the clinics, and it will bear the responsibility of extending its help to psychopathology to prevent and cure psychopathy. Therefore, in order to develop the work of medical psychology in our country, we should first of all, proceed with the work of psychopathology, particularly to meet the existing urgent need by participating in the work for the prevention and cure of psychopathy.

The work of medical psychology is naturally not limited to its cooperation with psychopathology only. There are problems of psychology in the various compartments of the broad field of medicine and hygiene, and medical psychology has to be coordinated with them. There are many visceral and circulatory as well as respiratory and digestive diseases, especially those that have become chronic. At the inner- and out-patient departments, whether in the process of treatment or convalescence, the functions of the psychogenic factors have become more prominent. At present, our medical circle has already mapped out research programs to study current diseases harmful to our people's health,—such as, the more serious high blood pressure and ulcers in the digestive organs. Some experts have proposed that these diseases should be controlled within a short period of time in order to ultimately get rid of them. This mission is extremely difficult, but very glorious. The experts of "psycho-somatic medicine" of America have already studied these diseases for over ten years. But, as indicated above, they have not found any better way out, nor have they formulated any brave slogans for the control of these diseases, except to resort to the cycle of the concepts of psycho-analysis. Our medical world has to achieve results in this area, and to make new contributions to the world of medicine. The psychogenic factors in these diseases, whether in the analysis of the causation of illness or in the clinical or preventive work, are of great importance. The workers of medical psychology should participate in this kind of medical research, and assist medicine in more quickly accomplishing the herioc task of controlling these diseases. Gynaecology, pediatrics and dermatology have also a number of psychological problems requiring the collaboration of medical psychology. We should also plan to extend this type of work.

In general, there is a good number of superior conditions for the current extension of the work of medical psychology in our country. The first is the highest guiding principle of our country — Marxism-Leninism, which theoretically points to the correct direction

for our work, and enables us not to repeat the mistake of following the dead end street trodden by "Psycho-somatic medicine". And our superior social system, the deep concern of the Party and the Government over the people's health to the fullest extent, and the extensive development of clinical and health work have provided medical psychology with superior conditions for its development. At the same time, they have great demand on us. The serious problem lies in the extremely small number of medical-psychological workers; the work is being started from scratch. Whether at the thinking or academic level, we all lag behind the demand of reality. However, if we could only think of our living in the Great Leap Forward of socialistic reconstruction today, and of such superior working conditions; and if we could only stir up sufficient power of work to struggle forcibly for progress, we will be like the labouring people of the whole country, to make beneficial contributions to the health service of the people under the illuminating light of the Party's main line.

IV. INDUSTRIAL PSYCHOLOGY IN CHINA

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I.

The system of Taylor (Taylorism) was described by Lenin as "the most skillful and most cruel means of bourgeois exploitation" and the "most fruitful scientific achievement".(1) After the publication of a Chinese translation of his (Taylor's) important work in 1916, "applied psychology" and "industrial psychology" of the capitalistic countries have gradually been introduced into our country. The number of essays of this type of introductory nature reached its maximum in the period, 1934-1936. A section of the psychologists who have cherished in their hearts "national salvation through industries" (this was the stand taken by the national bourgeoisie), promoted industrial psychology as an aid to industrial development. Another section consciously attempted to use it for bureaucratic-capitalistic exploitation and to serve the reactionary regime. When industrial psychology was publicized and promoted in our country, it was just the time when Soviet Russia was criticizing "psychotechnology". At that time, our psychologists had known very little of the conditions in the world of psychology in Soviet Russia.

In 1935, the former Institute of Psychological Research, Academia Sinica, and the Department of Psychology of National Tsing Hua University collaborated in the study of "Industrial Psychology", and a small number of psychologists engaged in some exploratory work in the factories.(3) At that time, our capitalistic industry still had not, and could not have developed to such an extent that there was need for "industrial psychology". Therefore, "industrial psychology" did not receive much attention from the capitalists in general. The masses of workers, however, understood that what was promoted as "raising the work — efficiency" really meant more brutal exploitation. So "industrial psychology" was generally opposed by the workers, and some attempts to carry out the so-called "methods of scientific management" were suspended, consequent upon the strong opposition of the union workers. The study of the so-called "industrial psychology" as carried out in the factories also faced the same situation. Take, for instance, the study of the "experiment on the proposal-making system" as carried out in the Nan-Kou Machine Shop.(4) The objective of that study was nominally for the "increase of working efficiency and the improvement of the workers' living conditions", but practically it was to use prizes as a bait to help the bureaucratic capitalists to exploit the workers in a more skillful way. Therefore, this type of study had not obtained the anticipated results. Very few people in the factory made proposals; the older were the workers the less proposals they

made. And the proposals as put forward concerned mainly with working conditions and equipment, and very few with the improvement of work methods. This was undoubtedly a silent protest on the part of the workers. As investigators at that time dared not look straight into these situations, correct conclusions could not be arrived at.

There were psychologists who attempted individually to make "industrial psychology"---Kung-Yeh Hsin-Li-Hsueh, (they called it "Shih-Yeh Hsin-Li-Hsueh")# a political means to serve the then reactionary regime, by asserting that "as society is daily tending toward complexity, and the human heart, wickedness, we should fully adopt the scientific method to cope with it".(5). "Shih-Yeh Hsin-Li-Hsueh" is one of their so-called scientific methods. And they maintained that this method not only did no harm to the employers' interests, but would increase them, that it would eliminate the factors which were harmful to the relationship between the employers and the workers, that it would avoid strikes, destruction, riots and so forth. This was the naked manifestation of the reactionary character of those "industrial psychologists", and this was their dream. However, they had contrived in vain, and their reactionary dream only turned into bubbles.

II.

After the liberation of the whole country and the establishment of the Chinese People's Republic in 1949, the age of imperialistic and bureaucratic usurpation of our country's industry came to an end; the working class has become enterpreneurs; and the promotion of production has become the common interest and the unanimous demand of the people of the whole country. Like other sciences, psychology has the responsibility of contributing its share of strength toward the development of production. In relation to, and under the leadership of the Party, the Institute of Psychology, Academia Sinica, submitted, in its preparatory period in 1951, a plan for the development of labour psychology. However, this plan did not lead to any positive result, because there was no clear recognition of the task, and a correct direction of labour psychology. From 1953 onward, labour psychology, like the other branches of psychology, has reached the stage of learning and reconstruction.

In the stage of learning and reconstruction, psychological workers engaged in learning the philosophy of Marxism, Pavlov's theory, and the Soviet psychology as well as in some experimental research in the psychology of labour. For instance, the Institute of Psychology, Academia Sinica, published "The Sequential Reactions

In Chinese "Kung Yeh" refers mainly to manufacturing, & "Shih-yeh" to all kinds of business endeavors, including manufacturing, trade, agriculture, etc.

of the Fixed Types of Motivity in Movement"(6), "A Preliminary Study in Predicting the Success of Movement"(7) and other reports on the theoretical side of the experimental research. The former is an attempt to solve the problem of physiological mechanisms of skill and dexterity, and the purpose of the latter study is to investigate the regularities of sensitivity of the moving bodies. At this stage, research publications on labour psychology of Soviet Russia and the other fraternal countries were continuously introduced(8), and they exerted positive influence on the work of our labour psychology.

The great victory of the Rectification Movement and the Anti-Rightist Struggle, coupled with the Party's proposals for the formulation of the main line of socialism, with the purpose of gaining sufficient power of work, and of struggling for progress speedily and economically had brought about the Great-Leap-Forward. In 1958, psychology in our country underwent a great change. The Institute of Psychology, Academia Sinica, in the anti-waste and anti-conservatism movements beginning as of 1958, laid stress on censuring the tendencies of deviation from reality in research work, and set up a Labour Psychology Division. In February-March 1958, the Institute of Psychology, the Mechanical Manufacture of the Department of the First Mechanical Industry and the Academy of Research in Technological Sciences, the Psychological Profession of the Peking University and other units jointly conducted a study class on the rationalization of work. Seventy cadres of the factory and mining enterprises learned the basic contents of labour psychology, and prepared the conditions for the development of research in labour psychology in industry. The Institute of Psychology immediately started research in labour psychology in the manufacture of machines, refinery of steel and mining. The Chekiang Teachers' College engaged in the study of the training of textile workers.(9) The Profession of Psychology, Peking University, also set up a branch for the specialization in labour psychology, and started research in the psychological traits of the advanced producers(10). The research in labour psychology was thus further developed. In the summer of 1958, the psychological circle of the whole country launched a movement for censuring the bourgeois academic thought in psychology. In this movement, stress was laid on censuring the biological tendencies in psychology, and the functions of man's class character and consciousness were strongly maintained. This movement served as an effective anti-toxin for the newly-born labour psychology, making it more alert to the wrong track of "psychotechnology".

In a decade, workers in labour psychology, under the leadership of the Party, through learning, censure, and research, have gradually had a clear understanding of the task and methods of labour psychology, and the distinction between the bourgeois "industrial psychology" and "psychotechnology". The "industrial psychology" of the capitalistic country is of service to the capitalists, and its objective is the more brutal exploitation of

the workers. Therefore, "industricalpsychology" is opposed by the masses of workers in the capitalistic countries. Our labour psychology is to serve the working class, and it aims at the basic interest of the working class, and at raising the rate of labour output in order to guarantee the ultimate victory of socialism. Therefore labour psychology is welcomed by the workers, and has become a powerful weapon in the struggle for raising production.

One of the main characteristics of the productive labour of mankind is the un-interrupted improvement of the tools of production, the incessant elevation of the techniques of production, and the consequently ever increasing rate of labour output. In each production department, there is already a certain set of production techniques within the production area for each new worker participating in productive labour before he starts work. The apprentice's speedy or slow mastery of the production techniques affects the rate of growth of the nation's technological power. In speedily developing our industries to-day, one of the main problems, which labour psychology has to study, is how to accelerate a new worker's speed in mastering the production techniques. Those, who have already mastered the production techniques, should use their utmost efforts to improve these techniques and to increase the rate of labour output. The core of the technological revolution as demanded by the Party is the utilization, creation and improvement of the tools of production, and the advancement of production techniques for raising the rate of labour output. Another important problem which labour psychology should undertake to study is how to spped up the improvement and raising of the production techniques. In brief, the important objective of the research in labour psychology is the mastery and improvement of the processes of production techniques. The aim of research is to accelerate the mastery of the processes of production techniques and to promote their reform in order to facilitate the speedy growth of the power of production techniques and the raising of the rate of labour output by leaps and bounds.

Production techniques are the formula and methods of using the tools and functions of production by the workers on the objects of labour, namely, the relationship between man and material. How to apply production techniques and how to develop their functions, however, are determined by the organization of workers, namely, the relations between man and man. For instance, to install a radio receiver is a production technique; it is determined by the receiver's original parts and tools; the method of installation is in conformity with the kind of original parts and tools; this is the relationship between man and the material (tools and original parts). However, how to develop the function of this technique depends upon the organization of labour. For example, it is the problem of the organization of labour: whether the whole department of the personnel is responsible for assembling the receiver by putting the different parts together and making it a finished product, or each individual should do just one job. Different labour organizations may have different rate of labour output. Sometimes the

labour psychologist has to study the problem of labour organization with a view to adapting the labour organization to the level of production techniques, and of securing the best co-ordination among the production techniques of the members within that organization, in order to develop the maximum efficiency.

In labour production, the extent of operation as developed by a person's mastery of the production technique is connected with his total psychological conditions. If a person's feeling is low, and his thought is not on production, no matter how high is his level of production technique, there is no high labour efficiency in production. The rate of speed in the production technique as possessed by a person, or the possibility of its improvement after its possession is conditioned by his emotions and state of consciousness. Though the work of labour psychology itself is not the work of political thinking in the treatment of a person's problem of emotions and consciousness, it should be closely united with the work of political thinking. Only by so doing can its work be fruitful, and its result will be capable of developing its function. By the clarification of this point, it makes labour psychology a different discipline from "psychotechnology".

Workers master and improve production techniques. So the practice of, experience in, and problems of the mastery and improvement of production techniques should first come from the workers. The workers of labour psychology do the research, solve the problems raised by the workers, generalize the experiences of elevating the level of the workers, and then give the data gathered to the workers for their use in learning and improving the production techniques. That is to say, the basic line of labour psychology comes from the masses, and it goes into the masses. This makes our labour psychology fundamentally different from the "industrial psychology" of the bourgeoisie, and different from "psychotechnology". The bourgeois industrial psychologists, being in nature servants of capitalist exploitation, are opposed to the workers. They can only force their measures of cheating and exploitation upon the workers, and fundamentally there is nothing of the line of the masses. The "psychotechnologists", due to their purely technological viewpoint of metaphysics, are unable to see the unlimited creativity of the wisdom of the masses, and they too are unable to use the method of the masses in scientific work.

III.

During the last ten years, as our labour psychology has devoted a great deal of time in the stage of learning, reconstruction and exploration, there has been very little result of concrete research. But in the stage of the recovery of our national economy, during the first five-year plan, especially after the launching of the second five-year plan, and in the period of the Great Leap Forward, the broad masses of workers have acquired much advanced experience in the areas of speedy mastery and promotion of reform in production

techniques, and they have waited urgently for the generalization of the labour psychologists. The following is a brief description of the results of the research in labour psychology, with a few examples relating to the advanced experience gained by the masses of workers. It explains some of the problems solved by them, and raises other problems for further study in labour psychology.

1. Study of the improvement in the method of work.

Productive labour is the application of the tools and operation of labour by the labourers to the object of labour, with the activity for producing finished products. Each piece of productive labour has its method of work, and by the advancement of the methods of work, it is possible to increase the rate of labour output. The improvement of the methods of work mainly includes: (1) more accurate mastery of the instrument of labour and the condition of the labour object in order to (2) improve the use of the instrument of labour and the methods of work. The former is mainly the problem of sensation and perception, enabling the labourers to have a more accurate reaction to the instrument and the object of labour. The latter is mainly the problem of the activity of work, making action rational and effective. The study of the improvement of the methods of work generally is undertaken from these two aspects, - sensation and perception as well as work and activity. With reference to the problem of "watching the fire" in the converter by the workers, the Institute of Psychology, Academia Sinica, started the study from sensation and perception.(11) In the process of steel refinery in the converter, the workers have to depend on the changes in the flames to judge the condition of smelting, and use it as a basis for proceeding with the work. Therefore, "watching the fire" or "controlling the strength of the fire" is an important technique which should be mastered by the steel workers at the converter. But this is a very difficult technique to be mastered, for the flames and sparks at the furnace are very strong stimulants, with complicated changes, appearing at short duration (especially the sparks) and it is hard to have a clear sense of sight against the background of strong glaring light. Moreover, looking at the fire is not merely observing one characteristic alone, but a composite judgment based upon a number of situations,-color, degree of fluidity, form, quantity (of sparks), the condition of eruption, the quality and quantity of erupted elements and the like. Owing to the complexity of the techniques, it takes a long time to train the steel refinery workers. In order to make the apprentices acquire the techniques more quickly, the researchers have proceeded with the operation by taking the following steps: (1) First, help the workers to understand clearly the visual objects. This is to base on the experiences of the veteran workers and the theory of steel refinery to find out the conditions of the flames, sparks, color, degree of fluidity, forms of the erupted materials and other changes, the temperature within the furnace, certain relationship between chemical reactions, etc. On the basis of the data collected, a brief outline is made to clarify the relationship between the visual objects

and the changes within the furnace, so as to make the apprentice know what to see, the meaning of the characteristics of each flame and spark as well as to know how to make a composite judgment of the conditions in the furnace from the various characteristics of the flames, sparks and the like. (2) Use the effective method of observation, such as, observing the appearance of the short-duration sparks, anticipating "the fixed position in time and space", that is, gazing at a given spot at a given time. In this way, it is easy to see clearly the appearance of sparks there. (3) Proceed to distinguish the gross and the refined. Train the apprentice to distinguish between the characteristics of the larger flames first, and then gradually learn to differentiate between the characteristics of the smaller ones. (4) Inspect and verify. Compare at any time the apprentice's observation and judgment with those of the tutors, or compare the analyses made on the kinds of steel in order to examine and verify the results of observation and judgment. By using this method, and a training of 17 days, the apprentices learned in varying degrees the techniques of judging the condition of smelting on the basis of the characteristics of the flames. The reactions of the workers were very good. In the Peiping Automobile Manufacturing Plant, the Institute of Psychology, Academic Sinica, had engaged in the study of the method of work with regard to punching and compression (12), and it was started from the aspects of sensation and work. Among workers on this job in this plant, there were the so-called "quick hands" and "slow hands". The researchers had analyzed the traits of the "quick hands":- (1) Proficiency in anticipating a given position. While getting component parts on the one hand, these workers, by applying their sense of sight or sense of touch on the other enable the positive and negative sides and the position of the articles to be in one accord with the mould, and in this way their movements at a given position were accelerated. (2) Proficiency in adapting the machine to work. They regularly arrange the box of components and the moulding instruments, according to height, direction and the degree of slanting, in such a way that their work becomes convenient, speedy and economical of energy. (3) Proficiency in arranging one's work and activity. They paid attention to the continuity of action and the harmony between hands and feet, trying their best to secure equilibrium in the activities, and in sharing the burden of the both hands, reducing unnecessary movements, avoiding confusion, and maintaining the rhythms of work. The researchers had studied the work movements of 20 kinds of punching and compressing articles. Based on the advanced methods of work of the "quick hands", concrete methods of improvement were recommended. After these methods were adopted by the workers, the output was raised by 56%. Those who were ordinarily regarded as "slow hands" began to catch up with, or were enabled to match the "quick hands".

By giving work movements rhythmical regularity increased labour efficiency also resulted, despite the fact there is no change in the work methods. The Institute of Psychology, Academia Sinica,

had made a preliminary study of this problem.(13) This work was carried out in the installation division of an electric tube factory. This division has a production line with five work sequences, each of which has an uneven use of time. The first work sequence uses 50 seconds, while the others were all below 40 seconds. In operation, the workers who were responsible for the first work sequence were in great tension, and the workers of the other sequences either reduced their work speed or worked intermittently, waiting for the semi-finished products. The whole production line lacked clear rhythms. The workers' attitude became: "make one, wait for another, slow and drowsy". After the researchers had discussed with the workers, a simple measure was adopted. Before the operation, the workers of sequence 2 were given a certain quantity of semi-finished products in order to maintain the rhythms of the whole production line, and the production volume of this production line was increased by 56%. The workers reflected: "There is a mood to work with the semi-finished products flowing smoothly down from the front line. To go on the night shift is not drowsy." This bears out the fact that, with proper rhythms of work, it is easy to make the workers preserve a high state of emotion, and raise their work efficiency without increasing the tension of work.

After liberation, the advanced producers of our country have always used the improved methods of work to increase the rate of labour output. The production departments of our industries are always generalizing the experiences and methods of work of the advanced, and are extending them. The famous Ho Chien-Siu Work Method(14), the 1951 Cloth Manufacturing Method(15), the Leap Forward Cloth Manufacturing Method(16) are examples of the superior work methods among the textile industries. There are also many advanced producers who have improved work methods, or created instruments to make the workers correctly grasp the conditions of labour objects and to increase work efficiency. Wei Hui-Liang, a workman of the Shanghai Ta Hsin Cheng Dye & Weaving Factory, had used the phenomenon of the relative stillness of two bodies of the same speed in motion to invent an instrument for examining coloured cloth known as "T'ing--Hsiang (Static Phenomenon) Observation Machine". This is an outstanding example(17). All these show that the improvement of work methods is one of the effective ways of increasing the rate of labour output, and they are worthy of further effective study. There are, at present, many types of work in industrial production, such as inspection of the delicate machinery, "T'ien Che", crane and the like, which require speedy and clear understanding of the objects of labour and their related situations. Study should also be made of how to improve the instruments and work methods in order to reduce labour tension and to increase work efficiency.

2. Study in the Prevention of Accidents.

While the socialistic society demands a high rate of labour output, it also pays attention to the workers' safety and health.

Prevention of accidents and safeguarding the security of production are the common endeavours of the production departments and their related scientific workers. The Institute of Psychology, Academia Sinica, has made a preliminary analysis of the causes of accidents in the mines (18). They have discovered that many accidents were due to human causes, such as, "disobedience to work regulations", "numbness and carelessness", etc. However, human factors are inseparable from the other two causes,-material equipment and conditions as well as institutions, organizations and technical measures. Among the human factors, such as "disobedience to work regulations", "carelessness" and so forth, they are also the reflections of a given objective condition, such as, the improper arrangement of the planning of duties, or of the work and rest routines, and the like. The researchers have made recommendations for intensifying the education on safety measures, and, from the analysis of organizations and institutions as well as technical measures, for improving the objective conditions liable to make people take wrong actions; and for safeguarding them from making mistakes and for avoiding accidents in the process of productive labour.

The workers of Labour Psychology, the Institute of Psychology, Academia Sinica, participated in the safety experimental field work in a Kiangsi mining area, of the Department of the Metallurgical Industries(19). They and the workers at the experimental area formulated regulations and systems relating to safe production, readjusted the system of signals in the pit, and emphasized on launching the work of safety education at meetings before the shift. According to the reflection of the workers, discussion of safety by everyone at the meeting before the shift is like reminding one another about safety, and strengthening their co-operation; it has a great effect on overcoming numbness and carelessness, and on safeguarding safety.

Looking from the angle of psychology, it is an important problem in safety education to keep reminding the workers to be vigilant. However, what formula and methods should be adopted in various kinds of industries, such as, slogans, pictures, meetings, etc.; how should these methods be used efficiently, such as, in the adoption of a form of conference, what should be the most effective intervals; these are the problems requiring further research.

Each production unit of our country has created a number of good measures for insuring safety, such as, the measure for registering the "causes of accident" as an advanced uncovering of the possible occurrence of accidents(20). Analysis and discussion of the system of precautionary measures by workers and the like are all effective measures as viewed from the principles of labour psychology. For after the registration of "the causes of accident", the workers would have a clearer understanding as to what to be aware of, and what to prevent. Having analyzed the accidents and discussed the preventive measures, the workers would

have deep impressions, and it is much easier to carry out the measures for prevention of accidents, as discussed.

3. Study in the learning of skills

Hitherto labour psychologists have done very little in the training of skilled workers. As far as the training of steel refinery workers in "inversion" furnace is concerned, it has already been mentioned above. The psychological workers of the Chekiang Teachers' College had studied the problem of the training of fine textile workers at the Hangchow Weaving Factory. In this study, the authors stressed the effect of consciousness on the result of learning. In their experiments on teaching the technique of connecting ends, they discovered that: by daily calculation and by telling the learners the concrete figures as calculated, the learners made the most rapid progress; by daily calculation, but by telling the learners to convert the figures into percentage of the previous day's achievement, the progress was comparatively slow; and the progress of the learners who did not calculate daily was the lowest. The authors have realized that the learners who knew the concrete calculated figures made most rapid progress, because from the calculated figures they learned of the condition of their own progress, and of its distance from the proposed goal of their task. The reason why progress was comparatively slow for those who only knew the percentage was that what they knew was only their own relative achievement. They could not compare them with the other learners, and did not know their own achievement and the distance from the goal set for their task. The authors have recognized that the task and the prescribed goal are of social significance, but the percentage is only significant to the individual. The workers of New China have a sense of social responsibility, which makes the prescribed goal the powerful factor for motivating work. The authors, in helping the workers correct the wrong movements in the loosening and twisting of fine gauge, wanted them to describe where the mistakes were, and in this way the workers were made to understand clearly the wrong movements and would correct them accordingly. In this study, the authors have proved that in the learning of skill, muscular movements and sensation are of importance. For example, in training the apprentices to connect the ends of fine gauge, according to the ordinary rule, end-connecting motion is trained singularly. The authors have maintained that end-connecting motion could be trained in conjunction with the antecedent gauge-leading motion. For the apprentice may accomplish the end-connecting motion by availing the tendency of lifting up the end of the gauge which has just been drawn out. That is to say, end-connecting motion can be more easily accomplished by depending on the muscular movement and sensation obtained in gauge-drawing. According to the method of the authors, the period of training has been reduced by over one half. The authors have even certified that in a system of work motion, if one of the motions easily leads to mistakes and requires correction, this motion can be trained in coordination with a

previous motion, and in this way, with the help of the muscular movement and sensation of the previous motion, the correct form of the latter motion can easily be secured.

Though our psychological workers have done very little in the field of skill-learning, to keep pace with the demand for development of our economic reconstruction, each production unit has exerted great efforts to train skilled workers and obtained rich experiences. Veteran workers have continuously improved their method of bringing up apprentices. Thus advanced methods of training have continuously cropped up in various industries. An earlier example is the quick method of teaching and learning the basic techniques of the machine shop as devised by the machine worker Pan Sung-fu(21). He systematized the techniques of a whole machine shop, enabling the apprentices to learn sequentially. According to his method of learning, the basic techniques of a machine shop can be mastered up to the level of a 3rd grade machine worker within three months. In 1958 the Pang Pu Machine Factory adopted measures combining the native with the foreign, and uniting theory with experience to create a complete training system, and the method of teaching and learning(22). The characteristics of these advanced methods of training are the union of theory with experience, and the combination of theory with practice. The experiences of veteran workers mainly belong to the subjective empericism, such as, looking at the fire, depending on the muscular sensation of the fingers to hold the pincer, depending on the sense of hearing to judge the condition of the rotation of the machine and so on. These are all the essentials of the work techniques. The veteran workers have gained these experiences through a long process. The need for the speedy increase of the technological strength does not allow the apprentices to take the long, long, road. However, some of the experiences of the veteran workers are acquired by a knowledge of how a thing is done but not why it is done, and some of the workers "know the idea but cannot explain it in words". In order to enable new workers to acquire the techniques, some veteran workers work themselves, while others co-operate with the technical and engineering personnel to re-organize systematically their experiences, supplement these experiences with theoretical explanation and devise more complete system for new workers to learn. The lectures to the new workers are given in conjunction with practical work. This system is known as "lecture while the workers learn, and work", "using the existing field as a classroom", where instruction, demonstrations and guidance are given in combination. From the standpoint of psychology, this is a very effective method of learning, and has in reality reaped very good results.

4. Study of Creative Activity

The socialist system is to furnish the great labouring masses with the superior conditions for the development of their wisdom and abilities. After liberation, the labouring people have, under the education and training of the Party, incessantly raised the level of their political awakening and the zeal of production, which

have given rise to a number of cases of inventions and creations. Since the Great Leap Forward, the labouring people of the whole country have got rid of superstitions, emancipated thoughts, developed the power of work and the revolutionary spirit of thinking daringly, speaking daringly and doing daringly. They have also designed countless numbers of new machines, tools and the methods of processing, raised the rate of labour output, and accelerated the degree of progress of the Fatherland's socialist reconstruction. These facts of creations and inventions of the masses have on the one hand smashed the bourgeois psychology respecting all the heresies of "inspiration", "sudden apprehension" of the spiritualistic interpretation of creative activity, and on the other hand, led to an extensive demand for and the possibility of studying inventive and creative activities. Therefore, how to generalize the experiences of creations and inventions of our labouring people, how to look for the rules of creative thinking and activity, and how to go one step further to promote creations and inventions and technological revolution are the important mission of labour psychology. In this respect, the Chinese psychological workers have also done some preliminary work.

The Labour Psychology Division, of the Institute of Psychology, Academia Sinica, in the Shanghai Hua Tung Switch Factory(23) and the Peiping Switch Factory(24) have engaged, one after the other, in the study of creative thinking and activity through the promotion of the automation of punching & die. The method adopted at the Hua T'ung Factory was that of the mass movement. After two nights' bitter struggle 132 sets of automatic punching and die were made. In the Peiping Factory, the researchers and the workers worked together, and recorded in detail the conditions of thinking and activity in the process of creation. The researchers discovered that those working masses, who had been aroused by the enterprise of socialist reconstruction, were able to use the self-forgetting labour to concentrate their energy on solving the contradictions which they encountered in the process of production. This is the motivating power of creative thinking and activity. Owing to the rapid increase in production, the work of punching and compression was so intense that a bottleneck was created in the whole output in these two aforesaid factories. The personnel of the Institute of Psychology has helped the factories adopt the following measures for the promotion of invention and creation:

(1) Analysis of contradictions, and unification of knowledge. The leaders, technicians, and workers, especially the veteran tutors in the machine shops were organized to collaborate in the research, and to ascertain where the chief contradictions in production laid. They unanimously recognized that, in punching and compressing the maximum amount of time was spent on filling and withdrawing materials, and that the method of solution was automation. This unity of knowledge, concentration of consciousness, and clear-cut direction were conducive to creative activity.

(2) Utilization of the Proto-type, and the enlightenment of thinking. Any creation and invention have to go through certain enlightenment. The object which has enlightening function is called the proto-mould (original type). It can stir up associative thinking and lead to creative thinking. The sources of the proto-mould and types are of great variety. The proto-types used by these two factories were suggestive diagrams and simple models. In addition, enlightening (instructive) forms of language were used in the Peiping Switch Factory—that is, to take some important sections of the automatic mechanism, using written statement to bring forth the problem, exhibiting them together with the suggestive diagrams, or bringing it up verbally while working together with the workers.

(3) Thinking while doing, progress step by step. Man's knowledge progresses gradually, from a part to a whole, and from a lower level to a higher level. Thinking and activity go through the same process of development. In the Hua T'ung Factory, this rule was used. At first, the workers were given comparatively simple topics, and the proto-type used was only a semi-suggestive diagram of the simple casting mould. The workers were in the state of "thinking while doing, and revising". In the process of manufacturing, some one put forth a whole set of the automatic punching & die of a much higher grade. It was then combined with the idea of the workers to put forth a second proto-mould of a more complicated automatic filling, and this has raised the process of creation one step higher. Finally these 132 sets of automatic casting moulds were exhibited. Some workers also used the automatic punching & die to be the proto-type, and created conducting plates and variable capacitors, got rid of manual work, and increased efficiency by 200%.

From the two items of work above, the laws of the development of the creative thinking and activity could be generalized:

(1) While the proto-type can enlighten creative thinking, it can also circumscribe it. Generally speaking, the more the proto-type resembles the machine to be created, the greater its enlightenment will be, and the restrictive function may possibly be increased proportionately. In these two factories, the proto-types have given very great enlightening effect, and actual instances of the restrictions made on the projects by the proto-type have been discovered.

(2) Professional knowledge and techniques are the pre-requisites of creation and invention, but usually they may also limit thinking and action. Engineering and technical personnel are always influenced by their professional knowledge in such a way as to be easy victims of complicated principles and mechanism, and to be negligent of simple principles and machanism; sometimes the veteran workers, owing to their habitual way of working, can also restrict creation.

(3) Creative thinking is developed and elevated in practice. The development of thinking and activity from the lower to the higher plane is realized in practice. For instance, while the

machine is in rotation, the relationship of its various parts in time and space is constantly changing, and in motion they are different from in stagnation. This change of relationship in time and space, may be beyond the comprehension of the inexperienced workers who begin to design new machine parts. This it gives rise to counter-work. In further practice, the worker has not only corrected the mistakes, but also solved the current problems, and sometimes could foresee possible conditions in the future. In this way, his method of thinking is being gradually raised, and the making of the machine parts is also being gradually perfected in actual practice.

(4) Creative thinking is the reflection of the objective laws. In the process of analyzing and solving contradictions, at the outset the direction of each person's thinking and activity may not be the same. However, if all the different people get the most desirable measure for solving the same contradiction, this measure naturally points to the same direction. Thus all different individuals have adhered to the objective law of the related object one after another. The comrades of the Institute of Psychology have helped separately the workers of the Peiping Switch Factory and the Motor Manufacturing Factory to manufacture the spring compression board on the rail for automatic transportation, and coincidentally made the exactly same type of mechanism.

The findings of these two researches have smashed the heresy of the bourgeois psychology regarding creation and invention, for the psychologists of spiritualism have maintained that creation and invention are the privileges of a few "genii", the enlightenment of "inspiration", which are "to be met with but not to be sought for", incapable of being designed, arranged, nor to be completed within an appointed time. The results obtained by us prove that:-

(1) Creation and invention can be planned and arranged. The mining industry should base on the concrete situation and need, with objectives and planning, to arrange methodically for invention and creation, in order to launch technological revolution, and to enable the creative thinking of the masses to develop toward a definite direction. (2) Creation and invention can be made collectively responsible. Collective analysis and solution of contradictions can overcome the difficulties of the meagreness of individual thought and the inadequacy of experience and technical strength, and help in mutual enlightenment and reciprocal elevation. In this way great result is reaped with little expenditure of time, without restricting personal creativity, and making all the participants creative in the work. (3) Creation and invention can be accomplished at the appointed time with the method of sudden attack (blitzkrieg). In pursuing the collective operation positively without slacking, the zeal of the masses is high, forming the most favourable condition for creative activity, and thereby obtaining abundant results easily.

This proves that creation and invention can be carried out collectively with planning and with the method of sudden attack. It also indicates the validity of the slogan, "go deeply into the masses to arouse them to strongly agitate for technological revolution". At present, in a few mines, the technological revolution is still of the spontaneous and accidental nature. Invention could be made, provided some one takes an interest to do painstaking research; very little or no invention could be made, if no one is interested. With the two research experiences mentioned above, it is able to change the spontaneity and accidentality of invention and creation, to make the technological revolution a regular movement, to be pushed according to planning, and to suddenly break though the technological barrier within a short period of time as well as to continuously raise the level of technology.

Now the technological revolution movement of our country is rushing forward like waves with one crest higher than the other. It has not only resulted in countless creations and inventions, but also has increased the experiences of creation and invention. Labour psychologists should, at any appropriate time, generalize these experiences, invent and create a living psychology resourcefully, and accelerate the technological revolution at a greater speed.

IV.

In the last ten years, the result of the research in labour psychology of our country is incompatible with the fleeting development of our industrial reconstruction. The work of labour psychology is still lagging behind the need of our Fatherland's socialistic reconstruction. The main reason is that the work of our labour psychology has just started in the right direction, after the Rectification Movement. Owing to the relatively late start of the work, the rank and file of the labour psychological personnel is still small, and the theoretical level and practical experiences are very low. However, after having responded to the Party's suggestions for coordinating theory with practice, and to its call for making science a service to production, the psychological workers started to work in the mines and factories beginning as of 1958, and in one year, their accomplishment surpassed that of the last few years. This testifies to the validity of the direction for coordinating theory with practice, and of the way of taking science along with the task. As long as we adhere to the Part line forever, and follow the Party's political leadership while depending on the masses, we will secure the healthy and speedy development of labour psychology.

During a period of practical work previously, labour psychology had gone through some deviation. At first, in the work it was satisfied with the solution of production problem and the increase of the rate of labour output without going deep into the scientific law pertaining to psychology. So it was hard to promote the development of labour psychology, and also hard to elevate the generalization

of the experiences for the solution of production problems, nor to go one step forward to solve the more general problems or to develop greater function. This shows that the labour psychological workers still lack a correct and profound understanding of the directive advising "the performance of a task accompanied by science". Next, there is a lack of profound realization of the necessity for thoroughly understanding the business of production, so one is unable in his work to participate dexterously in the production activity, and is also unable to make the operation go deeper. Henceforth, the labour psychological workers should overcome these defects, and raise their own theoretical level and technical training.

Now the fundamental task of the people of our country is to realize as soon as possible the technological revolution, to switch the whole national economy over to the basis of the new technology, that is, to the foundation of the modernized production technology, to accelerate the building up of our country so that it will become a socialistic country with modern industry, modern agriculture, and modern scientific technology, and have all the requisites for transition into communism in the future. The important task of labour psychology is to promote technological revolution. The central theme of the technological revolution is the utilization, creation and improvement of the instruments of production, and the elevation of production techniques. The work of labour psychology is also to help the workers acquire and to improve these techniques, improve the tools, and create new ones. Labour psychologists have to do research, learn and create the law of psychological activities from the labour of production. Then in turn they will apply these laws to production labour, to shorten the period of learning new techniques, to promote invention and creation, and to raise the level of technology.

The improvement of the method of work is one phase of the improvement of technics, one of the ways of raising the rate of labour output. Hitherto we, in this aspect of work, have paid attention only to changes in the methods of work and activity of an individual or a group, and this was very limited. Henceforth, the improvement of the methods of work should be coordinated with the improvement of tools,-that is, the coordination between invention and creation. In this way it is able to develop human potentialities. Research into the rhythmical nature of work and activity should be continued. With the daily modernization and automation of our production equipment, the use of automatic machinery has become greater and greater. We should study the problems of handling automatic machinery, and the management of a variety of machinery. As regards the study of the rhythmic nature of work and activity, it should be coordinated with the problems of fatigue and rest, in order to enable our workers to maintain regularly their high rate of labour output and their spirit of animation and cheerfulness. In the study of the improvement of the methods of work, attention should be paid to safety measures; this is more important to the kind of industry

under special conditions of labour. In the study of the problem of safety, research should be made deeply into the nature of attention and the various conditions which attract or hamper attention, in order to discover the effective measures for overcoming the "lack of attention", "numbness and carelessness". Complementary to the improvement of the methods of work, the problem of the psychology of engineering should also be stressed.

In handling the aspects of technology or the training of skilled workers, labour psychologists must lay stress on studying the methods of learning and training of the special kinds of industry, concretely analyzing the content of technology, and discovering the effective methods of learning in order to make the kind of industry, which was hard to learn before, is easy to learn now. The many-sided movement has brought to labour psychology a new problem how to learn more quickly, and to learn well. In the drive for learning, the multitude of skilled workers has already brought forward some effective principles of learning, such as, "from near to far", and "advance gradually according to stages." This is the utilization of the law of positive mobility in the process of learning. After the workers' mastery of the various techniques, they are able to go deeper into the comprehension of the co-relations between the various work sequences and the regularity of the whole process of production. This is not only beneficial to the elevation of the professional techniques, but also to any reforms and creation because of more knowledge and wider visions. Labour psychologists have to study the effects of the many-sided movements on the activities of invention and creation. The ploy-valence (multi-faced and handed) paints the whole contour of the labourers of the Communist society, breaks the bondage of the occupational division of labour, and further gets rid of the differences between physical and mental labours. When it reaches universally to the great multitudes of workers, it shall have deep effects on man's spirit and forms. Psychologists have to help to launch the ployvalent movement and to study its meaning and influence.

The basic road to the elevation of the rate of labour output is technological revolution. The promotion of creation and invention and the agitation for technological revolution are the central task of labour psychology. Creative activity is a very complicated psychological activity. By further study of the creative activity, it is able to raise higher the level of psychology, and to promote invention and creation in a much better way. Labour psychology should, in the movement for technological revolution generalize the laws of creative activity, and give impetus to the technological revolution. One of the results of the study of the Institute of Psychology, Academia Sinica, testifies(13) to the fact that an advanced objective is usually a kind of motivating power for work and it gives impetus to the fulfilment of the mission. The workers of labour psychology have to apply this law to themselves also and set up their advanced objective: the study of invention and creation, the promotion of the technological revolution, and the fulfilment of this mission with all might.

Hitherto the workers of labour psychology have been greatly inspired by Soviet psychological studies. The past experience has proved that: the degree of the accomplishment of labour psychology depends primarily on the level of political theory of the workers of labour psychology. The workers of labour psychology should intensify their learning of Marxism, and develop their political thinking. The workers of labour psychology must pay attention to the research into theory, should engage in the necessary experimental research, and the subjects of this kind of research have to come from practice, and the results of the research should also be verified by practice. The workers in labour psychology should pay full attention to the development of scientific techniques, and utilize the theory and techniques of modern science, such as, the theory of control, the theory and technics of electronics and the like, with which to equip themselves, and to raise their own level of science. The elevation of their own level of science and that of political theory are the pre-requisites for the healthy and speedy development of labour psychology.

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